



International Civil Aviation Organization


ASBU/SIP/Lima/2012-WP/31

Regional Air Navigation Plan - Planning Methodologies and Tools


H. Sudarshan

Workshop on preparations for ANConf/12 – ASBU methodology
(Lima, 16-20 April 2012)

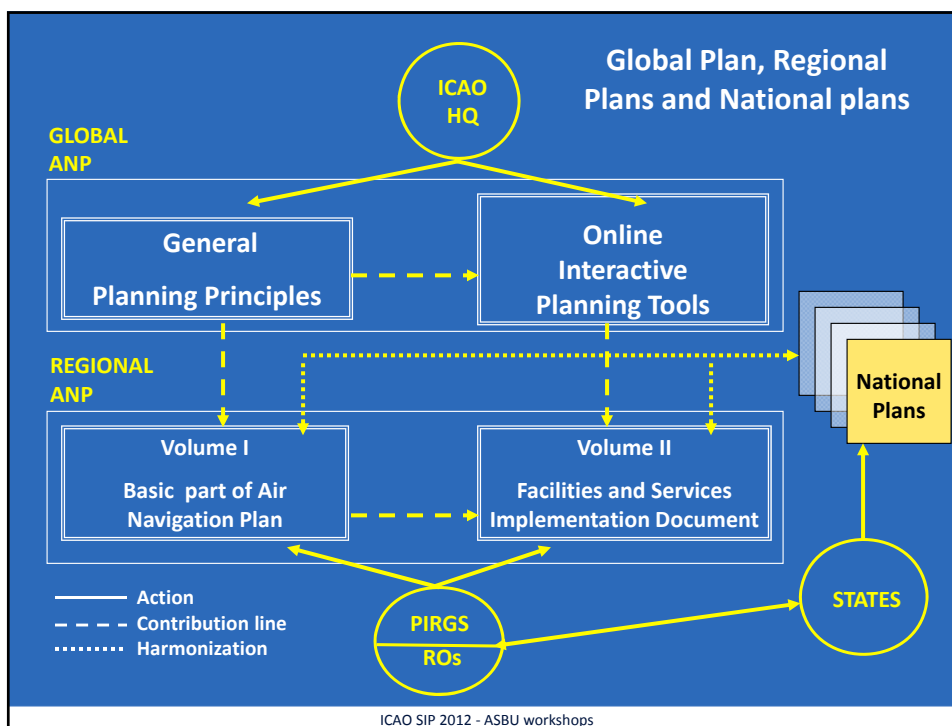
Outline



- Background – Basic ANP/FASID
- Regional Air Navigation Plans
 - Current paper based format
 - New online format
- Progress to date
- Monitoring and Reporting
- Endorsement by ANConf/12



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What is Regional ANP?



- The Regional Air Navigation Plans (ANPs) set forth in detail the facilities, services and procedures required for international air navigation within a specified geographical area.
- The development of these regional plans is undertaken by ICAO's six planning and implementation regional groups (PIRGs) in coordination with States and supported by ICAO's Regional Offices and the Air Navigation Bureau.

Regional ANPs -Documents



PIRG	ANP Document
APANPIRG	Asia/Pacific Region (Doc 9673)
APIRG	Africa-Indian Ocean Region (Doc 7474)
EANPG	European Region (Doc 7754)
GREPECAS	Caribbean and South American Regions (Doc 8733)
MIDANPIRG	Middle East Region (Doc 9708)
NAT SPG	<i>North Atlantic Region</i> (Doc 9634/9635)

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Regional ANPs- current paper based format



- In February 1997, the Council decided that the ANPs should be published in two volumes, a basic ANP as volume I and facilities and services implementation document (FASID) as volume II.
- The intent was to simplify amendment process to ensure currency of information.
- Amendments to Basic ANP, the stable document, require a time-consuming approval process by the governing bodies whereas the FASID requires frequent updates through coordination within the Secretariat.
- Effective July 2011, the amendment process was automated to further reduce the time reviewed within ICAO headquarters.
- But despite all these improvements, the challenge remained to keep the paper-based Regional ANPs updated.

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Regional ANPs -New online format



- To reduce time to process the ANPs, duplication, and rework, it is necessary to transition the paper based ANPs to new online format
- However, this evolution should allow the air navigation planner to use the data or tools for their daily work.
- Consequently, ICAO has developed a plan to transition to the eANP by using it as an alternative to the paper-based ANPs
- All PIRGs upon review of the online system, or components thereof, are encouraged to transition any part of the ANPs that contains the same information to the electronic format.

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Regional eANPs -What is new in New format?



- ❑ It is a user-friendly, robust, web-based planning and editing tool to ensure centralization and currency of data
- ❑ The full text and tables of ATS Routes of Volume I of all Basic ANPs have been updated
- ❑ The CNS, AIM, AOP and MET tables in FASID/Volume II of all ANPs are updated with a new format . These FASID tables have now been standardized and harmonized across all regions and aligned with ASBU methodology

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Regional eANPs –Progress to-date



- ✓ Following data, currently viewable on the State Tools User Group website:
<https://portal.icao.int/stug/Pages/Homepage.aspx>).
- ✓ All data related to ICAO Document 7910, Location Indicators.
- ✓ All data related to aerodromes and AIM.
- ✓ All data related to MET is on the current online application (here: <http://192.206.28.84/MET/>).
- ✓ All developments related to the eANP are shared on the Safety Tools User Group (STUG) web site
- ✓ Beta versions of all applications to view data will be launched by June 2012.
- ✓ GIS portal up and running : GIS.ICAO.INT

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Additional online tools for regional planning



- Go to <http://gis.icao.int/gallery>
- growing gallery of interactive maps that provides an overview of the implementation status of global and regional priorities. This tool will result in much of the current paper-based reporting to become obsolete as decision makers will now have access to real-time information on a continuous basis; and
- an online tool for managing location indicators and other air navigation data not contained in the regional ANPs, which will allow the air navigation planners to request a new or submit amendments to existing indicators online.

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ICAO Booth For Exhibition Of Online Planning Tools

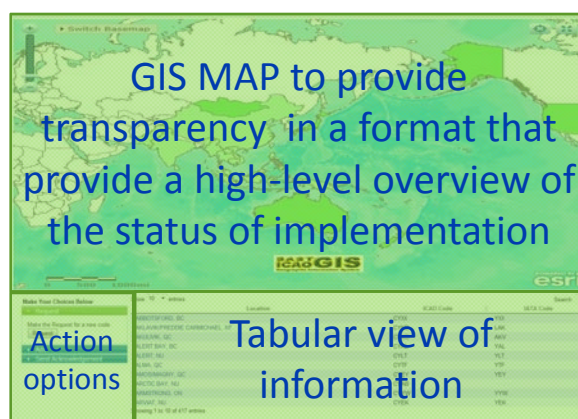


Product live demonstration:

- ❖ These ICAO online planning tools will be demonstrated in the exhibition area during the ANConf/12
- ❖ one-page training aid will also be available both online as well as disseminated during the Conference

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FASID Tables sample



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Air Navigation Implementation Reporting- ANRF



- The current PFF has been redesigned and aligned with ASBU framework and called the Air Navigation Report Form (ANRF)
- ANRF will be the basis for performance monitoring of the ASBU implementation at both regional and national levels
- The ANRF templates for all the 18 Modules of ASBU Block for regional and national planning will be available in Volume II – FASID of each eRegional Plan

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PFF re-designated as ANRF



SAMPLE TEMPLATE

AIR NAVIGATION REPORT FORM (ANRF)
ASBU METHODOLOGY

Regional and National planning for all ASBU Modules

REGIONAL/NATIONAL PERFORMANCE OBJECTIVE					
INCREASED INTEROPERABILITY, EFFICIENCY AND CAPACITY THROUGH GROUND-GROUND INTEGRATION (ASBU B0-25)					
Performance Improvement Area 2: Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management					
Main Key Performance Areas (KPA)					
	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	Y	Y	N
Implementation Progress					
ASBU B0-25 Elements including baseline			Implementation Status		
1. ATC system with FDPS functionality and a surveillance data processing system					
2. NEW Flight Plan 2012					
3. AIDC					
4. AMHS/IPS					
Implementation Roadblocks					
Elements including baseline	Ground system Implementation	Avionics Implementation	Procedures Availability	Operational Approvals	
1. ATC system with FDPS functionality and a surveillance data processing system					
2. NEW Flight Plan 2012					
3. AIDC					
4. AMHS/IPS					
Remarks, if any					

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14

Next Steps: A Global Air Navigation Report – Why?



- Effective 2014, on annual basis a Global Air Navigation Report will be released
 - The Regional Air Navigation Reports (ANRF) that provide data for shared review will be utilized in developing the annual Global Air Navigation Report.
 - The spirit of such a global review is to assist in understanding which areas requires special attention and effectively improve air navigation performance in the future
 - This review also provides an opportunity for world civil aviation community to compare the progress across different ICAO regions in the establishment of air navigation infrastructure.

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Next Steps: A Global Air Navigation Report – How?



- States to focus on the gathering information related to the highest priorities first, which are: PBN, CDO CCO
- States to use IFSET to calculate the fuel/CO₂ saved for any of the operational improvements
- ICAO Regional office to create its own regional GIS webpage
- ICAO Regional office to input the data received from States on its regional GIS webpage
- When all regions provide data on respective GIS webpage, it results in Global AN Report
- The GIS is illustrated in next few slides

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Next Steps: A Global Air Navigation Report – When?



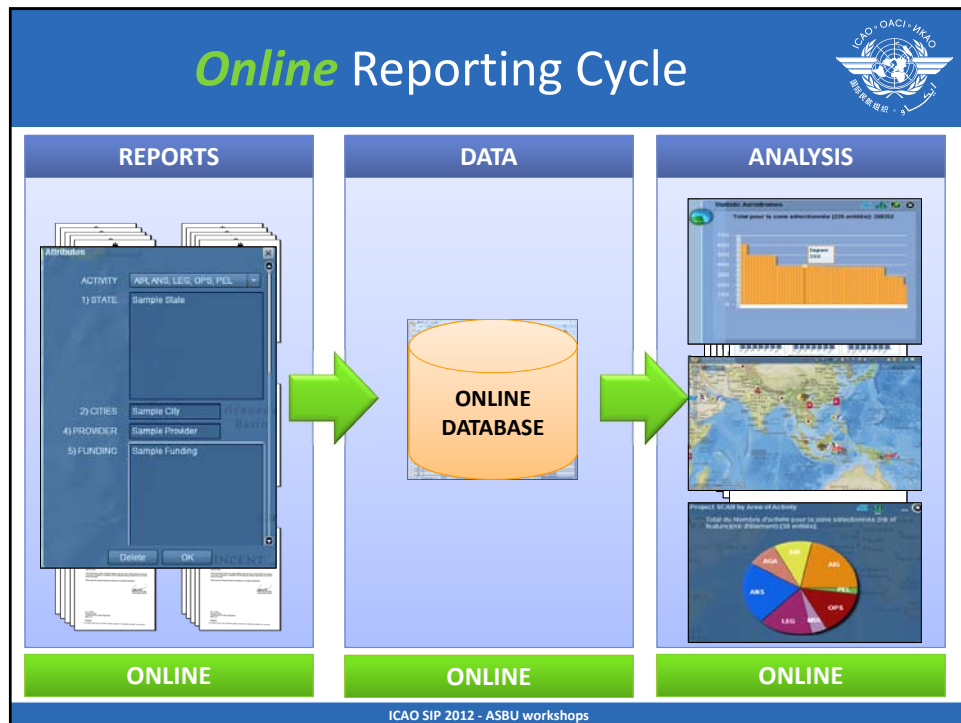
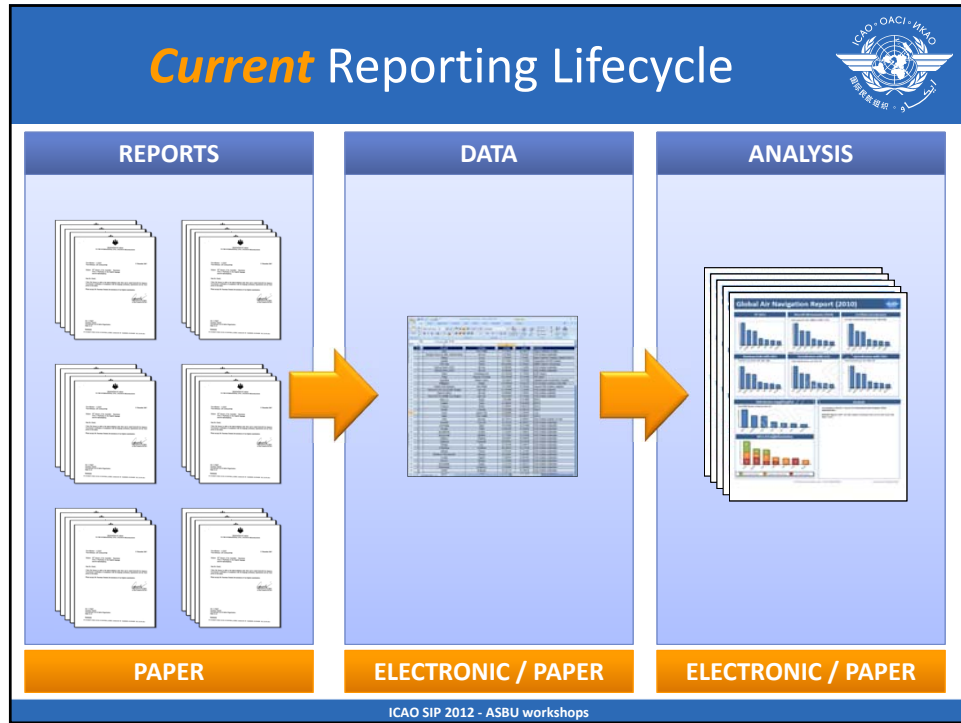
- Reporting will be primarily GIS based derived from regional information
- Dec 2012 - Regional Offices will have Region Specific GIS Map System
- May 2013 - First set of information will be aggregated
- First Air Navigation **REPORT planned for 2014**
- All States will have access

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Regional GIS webpage -How to input the data? An illustration



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One Common Interface

Internet Browser

<http://gis.icao.int>

Public Maps ICAO Carousell Mobile Explain Mobile ICAO MAP GALLERY

ICAO Maps and Web Applications

The ICAO Public Map Gallery is a collection of web based maps for the Aeronautical World. Find out more about ICAO GIS by viewing the gallery below.

Search maps

ICAO Language ...

ICAO Flight Plan Status

ICAO SCAN

ICAO SUPPS 7530

need Flash ICAO SLINC

ICAO ICAO SLINC

ICAO GIS Content

ICAO introduces a new ICAO MAP GALLERY: ICAO Server site
<http://gis.icao.int/gallery/>
 a part of its electronic Global Air Navigation Planning (eGANP) Initiative.

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A Gallery of Information

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LPR

ICAO Language ...

need Flash ICAO Language

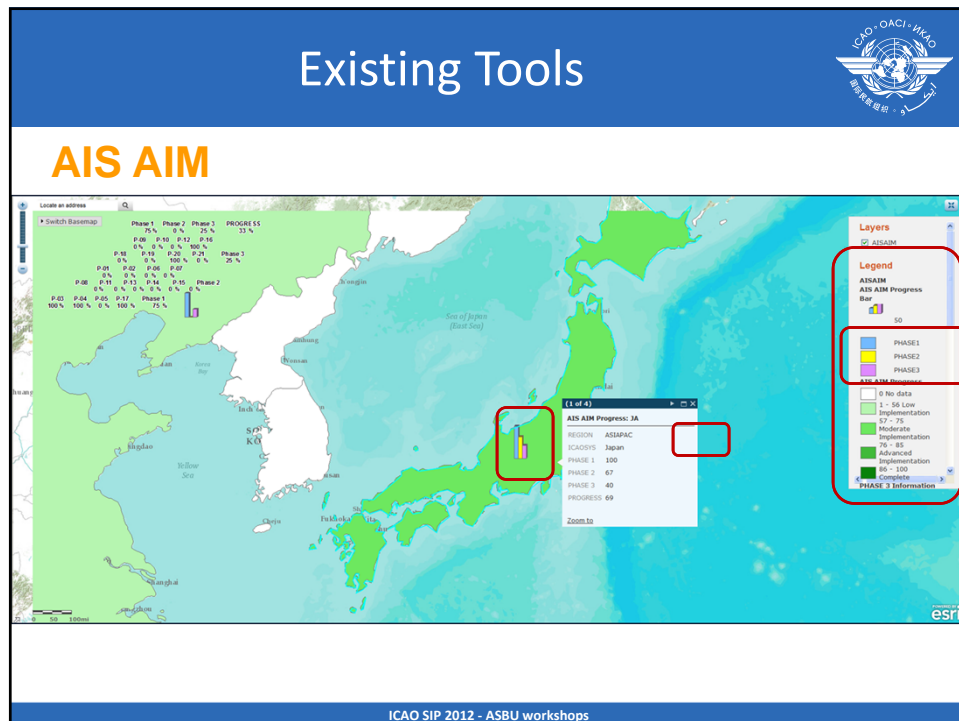
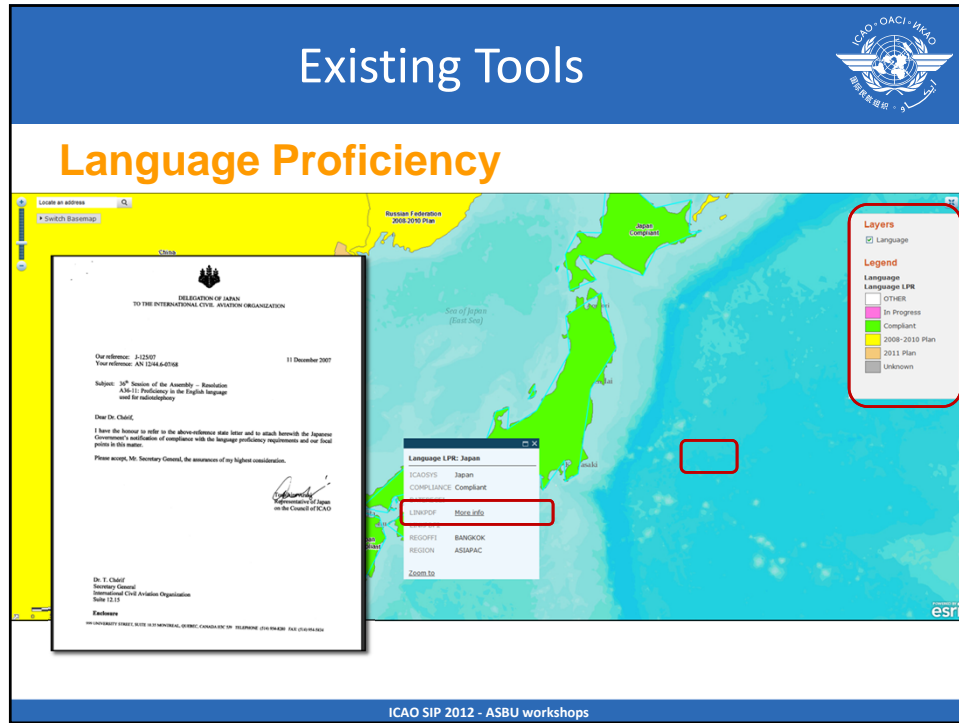
ICAO GIS Content

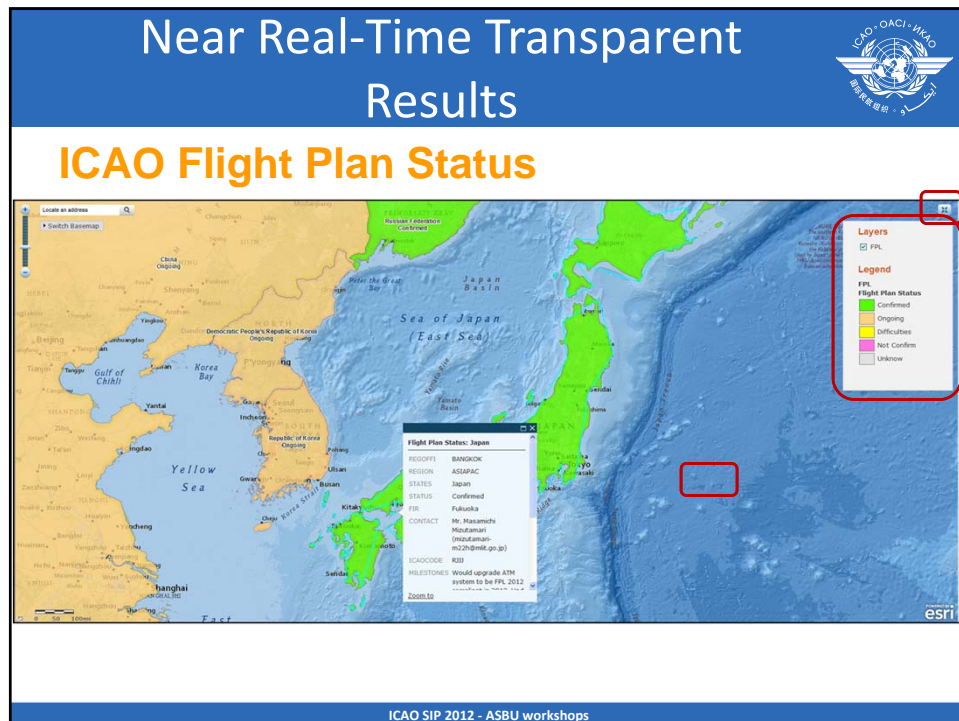
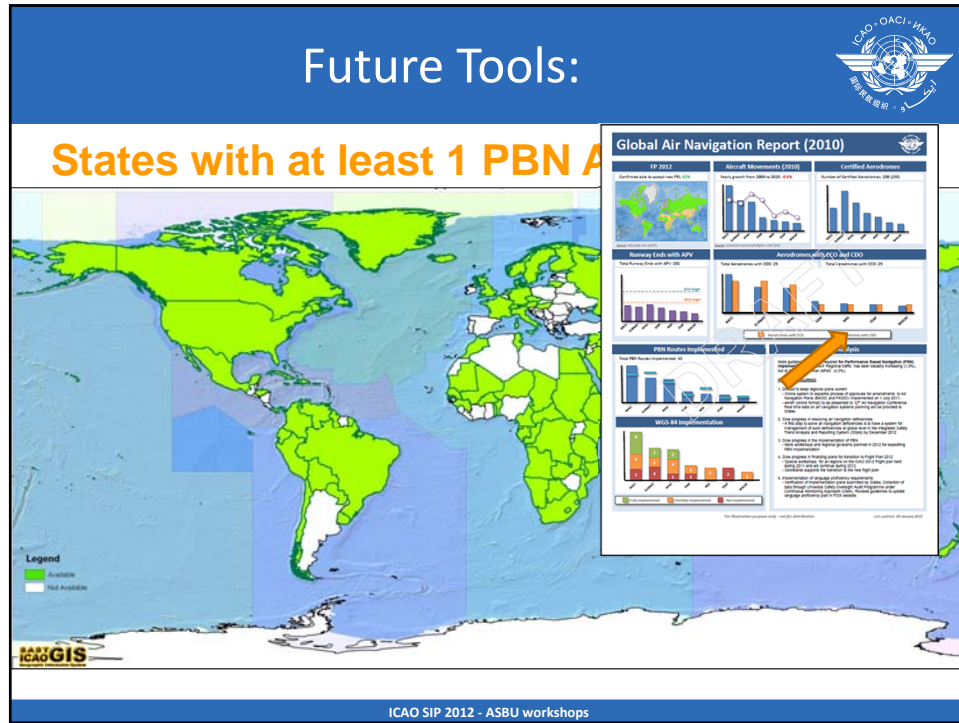
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 List of AIPs online
 Map ICAO LPR
 Map ICAO AISAIM

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Near Real-Time Transparent Results



Public Maps



ICAO LPR ICAO AISAM WGS 84
Uniting Aviation on
Safety | Security | Environment

ICAO Flight Plan Status

ICAO Flight Plan must be implemented around 15 Nov 2010

Locate an address

About this map
TRUE WEB SITE:
<http://gis.icao.int/FPL>

Full Featured Map (Desktop)



Accessible via desktop Mac or PC, laptop browser interfaces: IE 7, IE 8, Mozilla, Google Chrome and other...

On IPAD **download apps ArcGIS** by ESRI (app for IPAD)
<http://itunes.apple.com/ca/mt=8>

In the search MAP function Type "ICAO" Enter you find all the ICAO services

Select the ICAO MAP services you want, **click on more** to obtain other ICAO services

Or on IPAD and Android use **ArcGIS.com** Map Viewer the link below:

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Seek endorsement by AN-Conf/12

- Montréal, 19-30 November 2012
- Regional eAir Navigation Plans (Regional eANPs)
 - ICAO is progressing towards development of Regional e-ANPs for all the regions and will include ASBU methodology. The Regional e-ANPs will be an online interactive plan with access rights to States, International organizations and Regional offices and will be made available for AN-Conf/12.

